AMENDEMENTS TO THE CLAIMS

Claims 1-9 (Canceled)

Claims 10-13 (Withdrawn)

Claims 14-17 (Canceled)

Claims 18-21 (Withdrawn)

22. (New) A transgenic mouse whose genome comprises a disruption in an endogenous NTTP1 gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional NTTP1 protein, and exhibits anti-depressive behavior when compared to a wild-type mouse.

23. (New) The transgenic mouse of claim 22, wherein the anti-depressive behavior is characterized by a decrease in time spent immobile while tail suspended, relative to a wild-type control mouse.

24. (New) A cell or tissue obtained from the transgenic mouse of claim 22.

25. (New) A transgenic mouse comprising a heterozygous disruption in an endogenous NTTP1 gene, wherein the disruption in a homozygous state inhibits production of functional NTTP1 protein resulting in a transgenic mouse exhibiting anti-depressive behavior when compared to a wild-type mouse.

26. (New) The transgenic mouse of claim 25, wherein the anti-depressive behavior is characterized by a decrease in time spent immobile while tail suspended, relative to a wild-type control mouse.

27. (New) A method of producing a transgenic mouse comprising a disruption in an endogenous NTTP1 gene, the method comprising:

(a) introducing a targeting construct capable of disrupting endogenous NTTP1 gene into a murine embryonic stem cell;

(b) introducing the murine embryonic stem cell into a mouse blastocyst;

(c) implanting the resulting blastocyst into a pseudopregnant mouse, wherein the pseudopregnant mouse gives birth to a chimeric mouse; and

(d) breeding the chimeric mouse to produce the transgenic mouse,

wherein where the disruption is homozygous, the transgenic mouse lacks production of functional NTTP1 protein and exhibits anti-depressive behavior when compared to a wild-type mouse.

28. (New) The transgenic mouse produced by the method of claim 27.

29. (New) A targeting construct comprising:

(a) a first polynucleotide sequence homologous to at least a first portion of an endogenous NTTP1 gene;

(b) a second polynucleotide sequence homologous to at least a second portion of the endogenous NTTP1 gene; and

(c) a selectable marker gene located between the first and second polynucleotide sequences;

wherein the targeting construct, when introduced into a murine embryonic stem cell, leads to the production of a transgenic mouse comprising a disruption in an endogenous NTTP1 gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional NTTP1 protein and exhibits anti-depressive behavior when compared to a wild-type mouse.

30. (New) A murine embryonic stem cell comprising a disruption in an endogenous NTTP1 gene, the disruption produced using the targeting construct of claim 29.

31. (New) A method of producing a targeting construct, the method comprising:

(a) providing a first polynucleotide sequence homologous to at least a first portion of an endogenous murine NTTP1 gene;

(b) providing a second polynucleotide sequence homologous to at least a second portion of the endogenous murine NTTP1 gene;

(c) providing a selectable marker gene; and

(d) inserting the first sequence, second sequence, and selectable marker gene into a vector such that the selectable marker gene is located between the first and second sequences to produce the targeting construct,

wherein the targeting construct, when introduced into a murine embryonic stem cell, leads to the production of a transgenic mouse comprising a disruption in an endogenous NTTP1 gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional NTTP1 protein and exhibits anti-depressive behavior when compared to a wild-type mouse.